UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,729	08/20/2003	Purna Mohanty	ADAPP244	8211

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EXAMINER
PARIHAR, SUCHIN

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/645,729	MOHANTY ET AL.
	Examiner	Art Unit	
	Suchin Parihar	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment filed on 7/28/2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9 and 11-20* is/are rejected.

7)☒ Claim(s) *6 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)		4)☐ Interview Summary (PTO-413)	
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)		Paper No(s)/Mail Date. _____ .	
3)☐ Information Disclosure Statement(s) (PTO/SB/08)		5)☐ Notice of Informal Patent Application	
Paper No(s)/Mail Date _____ .		6)☐ Other: _____ .	

DETAILED ACTION

This office action is response to application 10/645,729, filed on 8/20/2003, amendment filed on 7/28/2006. Claims 9-12 are currently amended. Claims 1-20 are pending in this application.

Applicant's remarks filed 7/28/2006 have been fully considered but they are not persuasive. The applicable rejections from the prior office action are incorporated herein.

Drawings

1.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features recited in claim 7: "translating each text based task associated with the verified test case to a compiled hardware description language (HDL) task", must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Examiner suggests incorporating this inventive step into Figures 3 and/or 4.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   **Claims 1, 3, 5, 9, 12-14, 16, 18 and 20 are rejected under 35 U.S.C. 103(a)** as

being unpatentable over Hartman et al. (US PG Pub 2003/0208351) in view of Akin et

al. (6,182,245).

4.   With respect to claim 1, Hartman teaches: identifying a test case associated with

a client (pg 9, paragraph [0153], i.e. test suite generated for a number of clones [clones

are associated with a client(s)]), submitting the test case to a pre-initialized simulation

server from the client (pg 5, paragraph [0091], i.e. test cases provide input to the

execution engine, wherein in the execution engine acts as a server because it serves

the client/server system, see Figure 2), executing the test case on the pre-initialized

simulation server (pg 5, paragraph [0092], i.e. discussion of execution engine executing

test cases), communicating results from the test case execution to the client (see

Figures 1 and 2: execution engine 10 of Figure 1 provides test case results #38, and

outputs it to the client/server SUT of Figure 2, consider [Figure 2] the input/output

relationship between the execution engine #12 and the SUT block), and executing a

reset and initialization sequence at the pre-initialized simulation server to maintain the

pre-initialized simulation server in an initialized state for a next test case (pg 10,

paragraph [0161], i.e. server system that is able to process a next test case, also see

Figures 12A and 12B). Hartman does not teach: verifying the test case at the client.

However, Akin teaches: verifying the test case at the client (client sending test case

instruction to server in order to obtain most accurate test case data from test-case data

server [i.e. verifying the test case by obtaining the expected result of that test case],

wherein that data is retrieved by the client system, Col 4, lines 55-62, in conjunction with

Figure 3). It would have been obvious to one of ordinary skill in the art at the time of the

invention to incorporate Hartman into the invention of Akin because Hartman would

improve the invention of Akin by allowing Akin to evaluate the same test case

repeatedly or evaluate the next test in a group/suite of test cases, prior to ending the

testing process.

5.   With respect to claim 9, Hartman teaches: executing a reset and initialization

sequence at a server to maintain the server in an initialized state (pg 10, paragraph

[0162], i.e. if there is another test case, control resets back to step 166 of Figure 12A

wherein another next state can be processed at the server); executing the test case and

recording results associated with execution of the test case (pg 5, paragraph [0090], i.e.

execution engine executes test cases and provides validation results which are logged);

communicating the results to the client (see Figures 1 and 2: execution engine 10 of

Figure 1 produces test case results #38, and outputs it to the client/server SUT of

Figure 2, consider [Figure 2] the input/output relationship between the execution engine

#12 and the SUT block, client has capability of receiving test results): resetting the

server to maintain the initialized state for receiving a next test case (pg 10, paragraph

[0162], i.e. if there is another test case, control resets back to step 166 of Figure 12A

wherein another next state can be processed at the server). Hartman does not teach:

receiving a verified test case from a client in communication with the server. However,

Akin teaches: receiving a verified test case from a client in communication with the

server (test client A issues test case instruction to test server, Col 4, lines 50-55). It

would have been obvious to one of ordinary skill in the art at the time of the invention to

incorporate Hartman into the invention of Akin because Hartman would improve the

invention of Akin by allowing Akin to evaluate the same test case repeatedly or evaluate

the next test in a group/suite of test cases, prior to ending the testing process.

6.   With respect to claim 14, Akin teaches: a client, the client configured to identify a

test case (description of test case data, Col 4, lines 48-55) for simulation with the

integrated circuit design (Col 4, lines 35-37), the client further configured to generate a

verified file (test case data element, Col 4, lines 55-62) from the test case (description of

test case data); a server (software program A, see Figure 3) in communication with the

client; the server configured to maintain an initialized state, the server when in the

initialized state configured to receive the verified file (test case data element –Directory

Structure 318, Col 4, lines 55-62) from the client for execution, wherein after execution

of the verified file, the server is enabled to communicate results (actual results from execution, Col 4, lines 65-67) to the client. Akin does not teach: the server resets to the initialized state. However, Hartman teaches: the server resets to the initialized state (see Hartman, Figure 12B, system prepared to reset/loop-back to process next test case or repeat current test case; also see discussion of Figure 12 starting on pg 9, paragraph [0151]). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Hartman into the invention of Akin because Hartman would improve the invention of Akin by allowing Akin to evaluate the same test case repeatedly or evaluate the next test in a group/suite of test cases, prior to ending the testing process.

7.   With respect to claims 3, 13 and 18, Akin in view of Hartman teaches all the elements of claims 1,9 and 14, from which the claims 3, 13 and 18 depend respectively. Hartman teaches: wherein the results, or program instructions for communicating the results, are formatted as a results.log file and/or are generated as a results.log file (the output of the validation engine 36 is logged as validation results, pg 5, paragraph [0091]).

8.   With respect to claims 5 and 12, Akin in view of Hartman teaches all the elements of claims 1 and 9, from which the claims depend respectively. Hartman teaches: wherein communicating the results to the client includes uninitializing the simulation server (client clones disconnect from the server sequentially following execution of test case, pg 6, paragraph [0106])

9.   With respect to claim 16, Akin in view of Hartman teaches all the elements of

claim 14, from which the claim depends. Akin does not teach: a network providing a

communication pathway between the server and the client. However, Akin teaches: a

network providing a communication pathway between the server and the client (client

system A is remotely coupled to test server by communications network, Col 4, lines 25-

30).

10.   With respect to claim 20, Akin in view of Hartman teaches all the elements of

claim 14, from which the claim depends. Hartman does not teach: wherein both the

client and the server are general-purpose computers. However, Akin teaches: wherein

both the client (client test system A is a computer system, Col 4, lines 25-35) and the

server (assumed to be a computer system, as it is described operating in a network, Col

4, lines 25-35) are general-purpose computers.

11.   **Claims 4 and 19 are rejected under 35 U.S.C. 103(a)** as being unpatentable

over Hartman èt al. (US PG Pub 2003/0208351) in view of Akin et al. (6,182, 245), and

in further view of Conan et al. (6,810,364).

12.   With respect to claims 4 and 19, Hartman in view of Akin teaches all the

elements of claims 1 and 14, from which the claims depend respectively. Hartman in

view of Akin does not teach: providing a queue associated with the pre-initialized

simulation server, the queue configured to store the test case. However, Conan

teaches: providing a queue associated with the pre-initialized simulation server, the

queue configured to store the test case (server accesses three data resources including

an active job queue and a complete job queue, Col 4, lines 55-60). Also, this queue is

enabled to store a plurality of verified files, said files simply being test cases that have

checked syntax and format of data. It would have been obvious to one of ordinary skill

in the art to incorporate Conan into the invention of Hartman/Akin because a series of

job queues enables Hartman/Akin to perform test-case based testing in a first-in-first-out

ordering, as the queue would imply, therefore improving the invention of Hartman/Akin.

13.   **Claims 2, 7-8, 11, 15 and 17 are rejected under 35 U.S.C. 103(a)** as being

unpatentable over Hartman et al. (US PG Pub 2003/0208351) in view of Akin et al.

(6,182,245), and in further view of Danialy et al. (US PG Pub 2002/0073374).

14.   With respect to claim 2, Hartman in view of Akin teaches all the elements of claim

1, from which the claim depends. Hartman in view of Akin fails to teach: wherein the

method operation of verifying the test case at the client includes checking a syntax and

a format of tasks defining the test case. However, Danialy teaches: wherein the method

operation of verifying the test case at the client includes checking a syntax and a format

of tasks defining the test case (syntax which may be used to specify test steps, test

groups and runtime parameters, pg 4, paragraph [0043]). It would have been obvious

to one of ordinary skill in the art at the time of the invention to incorporate the invention

of Danialy into the Hartman/Akin combination because Danialy improves the testing

process of Akin/Hartman by providing a specific syntax and format for which test cases

must follow to make the testing process more efficient.

15.   With respect to claim 15, Hartman in view of Akin teaches all the elements of

claim 14, from which the claim depends. Hartman in view of Akin does not teach: a

storage medium in communication with the server, the storage medium configured to

store compiled hardware description language based tasks corresponding to text based tasks associated with the verified file. However, Danialy teaches: a storage medium in communication with the server, the storage medium (embedded test IP access data, see Figure 4) configured to store compiled hardware description language based tasks (architecture description involved in producing a sequence of all of the instructions necessary to affect the test step specification [tasks], pg 5, paragraph [0067]) corresponding to text based tasks associated with the verified file (wherein verified file is the text-based test configuration file 50 of Figure 4, thus said association exists).

16.   With respect to claim 17, Hartman in view of Akin teaches all the elements of claim 14, from which the claim depends. Hartman in view of Akin fails to teach: wherein the verified file includes a sequence of text-based tasks. However, Danialy teaches: wherein the verified file includes a sequence of text-based tasks (test configuration file [see Figure 2] illustrates the syntax used to specify test steps [tasks] which are text-based).

17.   With respect to claims 7 and 11, Hartman in view of Akin teach all the elements of claims 1 and 9, from which the claims depend respectively. The Hartman/Akin combination fails to teach: translating each text based task associated with the verified test case to a compiled hardware description language (HDL) task. However, Danialy teaches: translating each text based task associated with the verified test case to a compiled hardware description language (HDL) task (i.e. test design data file [i.e. test case] are in the form of text files with component descriptions specified in Hardware Description Language HDL format, pg 3, paragraph [0040]).

18.   With respect to claim 8, Hartman in view of Akin and in further view of Danialy

teaches all the elements of claim 7, from which the claim depends. Hartman teaches:

wherein the compiled HDL task is stored on a storage media associated with the

simulation server (see Fig 2, test suite 30 [storage media] stores test cases 40 [

sequences of stimuli – i.e. tasks] which are associated with the execution engine 12

[simulation server]).

Allowable Subject Matter

19.   Claims 6 and 10 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

20.   With respect to claims 6 and 10, the prior art made of record fails to teach:

associating text file based tasks of the test case to hardware description

language HDL based tasks; and

executing the HDL based tasks on a model of an integrated circuit design

associated with the simulation server.

Response to Arguments

21.   Applicant's remarks filed 7/28/2006 have been fully considered but they are not

persuasive.

22.   Applicant asserts that Hartman does not suggest or teach initializing the

execution engine. Examiner disagrees with this assertion.

Examiner points out Figure 12 of Hartman wherein steps 176,180 loop back to

the beginning of step166 "start [i.e. initialize] execution engine".

23.   Applicant asserts that the prior art made of record does not teach or suggest

verifying for format or syntax errors of the test data at the client. Examiner disagrees

with this assertion.

Examiner points out Danialy pg 4 paragraph [0043] which discusses checking a

syntax and a format [i.e. a way to specify test steps as in Fig 2] of tasks defining the test

case [i.e. test configuration file 50].

24.   Applicant asserts that Akin and Hartman do not teach uninitializing and re-

initializing of the server after each test case. Examiner disagrees with this assertion.

Examiner points out that Hartman teaches re-initializing at Fig 12 step 166

wherein the "start execution engine" may be repeated several times. Examiner also

points out that Hartman teaches uninitializing the simulation server (clones disconnect

[i.e. uninitializing] sequentially from the server, pg 6, paragraph [0106]).

25.   Applicant asserts that the combined teachings do not teach or suggest verifying

the test case at the client prior to submitting the test case to a pre-initialized simulation

server. Examiner disagrees with this assertion.

Examiner points out that Akin teaches: verifying [i.e. obtaining expected results,

see Fig 3, expected results in box 324 –Design 1] the test case at the client prior to

submitting the test case to a pre-initialized simulation server (after access to the desired

test case data is established [i.e. obtaining expected results –"verifying"], test program A

[i.e. simulation server/device/apparatus] issues execution instruction [i.e. verifying takes

place prior to submitting test case to simulation/execution server i.e. Software Program

A]).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Suchin Parihar whose telephone number is 571-272-

6210. The examiner can normally be reached on Mon-Fri, 8:30am-5:00pm.
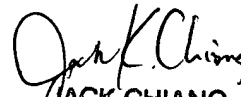
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

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800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Suchin Parihar
Examiner
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JACK CHIANG
SUPERVISORY PATENT EXAMINER